

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/937,194	OHNO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Johannes P Mondt	2826	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/04/2003.
2. ☒ The allowed claim(s) is/are 1,6,7,11 and 14.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☒ CORRECTED DRAWINGS must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____.            |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____.              | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Response to Amendment***

Amendment filed 08/04/2003 forms the basis of this office action. In said Amendment Applicant substantially amended claims 1, 6, 7 and 11 and cancelled claim 10, while claim 2-5 and 8-9 had been cancelled previously. Consequently, claims 1, 6-7 and 11-14 are in the application.

### ***Response to Arguments***

1. Applicant's arguments, see Remarks in aforementioned Amendment, filed 08/04/2003, with respect to the rejection of claims 1, 6 and 12 under 35 U.S.C. 103(a) as being unpatentable over Prior Art as Admitted by Applicant in view of Kamei (JP359117280A), Sonobe et al (US 2002/0153532 A1) and Kusuda (JP403194978A) have been fully considered and are persuasive *with respect to the newly substantially amended claims*, for reasons delineated in Examiner's "Response to Arguments" in the previous office action (mailed 04/23/2003), i.e., final sentence of first paragraph of page 3 in "Response to Arguments", page 3, for claims 1 and 12, and first two lines of page 4 in "Response to Arguments" for claims 6 and 12.

2. Applicant's arguments, see Remarks in aforementioned Amendment, filed 08/04/2003, with respect to the rejection of claim 11 under 35 U.S.C. 103(a) as being unpatentable over Prior Art as Admitted by Applicant in view of Kamei (JP359117280A), Sonobe et al (US 2002/0153532 A1), Kusuda (JP403194978A) and Breeze (5,394,653),

have been fully considered and are persuasive *with respect to the newly substantially amended claims*, for reasons delineated in Examiner's "Response to Arguments" in the previous office action (mailed 04/23/2003), i.e., first two lines of page 4 in "Response to Arguments".

3. Applicant's arguments, see Remarks in aforementioned Amendment, filed 08/04/2003, with respect to the rejection of claim 7 under 35 U.S.C. 103(a) as being unpatentable over Prior Art as Admitted by Applicant in view of Kamei (JP359117280A), Sonobe et al (US 2002/0153532 A1) and Kusuda (JP403194978A) have been fully considered and are persuasive *with respect to the newly substantially amended claims*, for reasons delineated in Examiner's "Response to Arguments" in the previous office action (mailed 04/23/2003), i.e., final sentence of first paragraph of page 3.

Hereby, the rejection of claims 13-14, dependent upon aforementioned claims and part of the original disclosure, can no longer be rejected over the above references either.

#### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kenneth N. Nigon (Reg. No. 31,549) on November 5, 2003. The application has been amended as follows:

BEGIN EXAMINER'S PROPOSED AMENDMENT

The application has been amended as follows:

**Drawings:** A "Prior Art" label has been added to Figure 15.

**Claim 1:**

(a) the wording "arrayed in one line in parallel with the long side of the chip" (line 4) has been replaced by: "arrayed in and sequentially numbered along one line in parallel with a long side of the chip on a main surface thereof";

(b) the wording "N light-emitting thyristors" (line 5) has been replaced by "N three-terminal light-emitting thyristors";

(c) the wording "to kth light-emitting thyristor" (line 10) has been replaced by "to the k<sup>th</sup> three-terminal light-emitting thyristor";

(d) the wording "to ith" (line 10) has been replaced by "to the ith";

(e) the wording of the chip "light-emitting thyristor is connected to jth" (line 13) has been replaced by "three-terminal light-emitting thyristor is connected to the j<sup>th</sup>";

(f) the wording "expression of" (line 16) has been replaced by "expression";

(g) the wording "p is a critical value of the array pitch" (lines 16-17) has been replaced by "p is the array pitch";

(h) the wording "the area of the chip" (line 17) has been replaced by: "the area of said main surface of the chip".

**Claim 6:**

(a) the wording "arrayed in one line in parallel with the long side of the chip" (line 4) has been replaced by: "arrayed in and sequentially numbered along one line in parallel with a long side of the chip on a main surface thereof";

(b) the wording "N light-emitting thyristors" (line 5) has been replaced by "N three-terminal light-emitting thyristors";

(c) the wording "of kth light-emitting thyristor is connected to ith" (line 10) has been replaced by: "of the k<sup>th</sup> three-terminal light-emitting thyristor is connected to the i<sup>th</sup>";

(e) the wording "kth light-emitting thyristor is connected to jth" (lines 13-14) has been replaced by "k<sup>th</sup> three-terminal light-emitting thyristor is connected to the j<sup>th</sup>";

(f) the wording "the expression of" (line 16) has been replaced by "the expression";

(g) the wording "p is a critical value of the array pitch" (lines 16-17) has been replaced by: "p is the array pitch";

(h) the wording "the area of the chip" (line 17) has been replaced by "the area of said main surface of the chip";

***Claim 7:***

(a) the wording "arrayed in one line in parallel with the long side of the chip" (line 4) has been replaced by: "arrayed in and sequentially numbered along one line in parallel with a long side of the chip on a main surface thereof";

(b) the wording "N light-emitting thyristors" (line 5) has been replaced by "N three-terminal light-emitting thyristors";

(c) the wording "of kth light-emitting thyristor is connected to ith" (line 10) has been replaced by: "of the k<sup>th</sup> three-terminal light-emitting thyristor is connected to the i<sup>th</sup>";

(e) the wording "of the kth light-emitting thyristor is connected to jth" (line 13) has been replaced by "of the k<sup>th</sup> three-terminal light-emitting thyristor is connected to the j<sup>th</sup>";

(f) the wording "the expression of" (line 16) has been replaced by "the expression";

(g) the wording "p is a critical value of the array pitch" (lines 16-17) has been replaced by: "p is the array pitch";

(h) the wording "the area of the chip" (line 17) has been replaced by "the area of said main surface of the chip".

**Claim 11:**

(a) the wording "arrayed in one line in parallel with the long side of the chip" (line 4) has been replaced by: "arrayed in and sequentially numbered along one line in parallel with a long side of the chip on a main surface thereof";

(b) the wording "N light-emitting thyristors" (line 5) has been replaced by: "N three-terminal light-emitting thyristors";

(c) the wording "of the k<sup>th</sup> light-emitting thyristor is connected to i<sup>th</sup>" (line 10) has been replaced by: "of the k<sup>th</sup> three-terminal light-emitting thyristor is connected to the i<sup>th</sup>";

(e) the wording "of the kth light-emitting thyristor is connected to jth" (line 13) has been replaced by: "of the k<sup>th</sup> three-terminal light-emitting thyristor is connected to the j<sup>th</sup>";

(f) the wording "the expression of" (line 16) has been replaced by: "the expression;

(g) the wording "p is a critical value of the array pitch" (lines 16-17) has been replaced by: "p is the array pitch";

(h) the wording "the area of the chip" (line 17) has been replaced by "the area of said main surface of the chip".

**Claim 12:**

(a) the wording "including" (line 6) has been replaced by "includes".

END EXAMINER'S PROPOSED AMENDMENT

***Allowable Subject Matter***

5. ***Claims 1, 6-7 and 11-14 are allowed.*** The following is an examiner's statement of reasons for allowance:

*With regard to claims 1 and 7:* claims 1 and 7 as currently amended restrict N (i.e, the number of three-terminal light-emitting thyristors) to the range  $N \geq 8$  not found to date in the otherwise closely related art as cited in the previous office action (see "Response to Arguments" of Office Action of Paper No. 13 mailed 04/23/2003), i.e., Kamei (JP359117280A), Sonobe et al (US 2002/0153532 A1), Kusuda JP403194978A) (listed in IDS of Paper No. 4), and, for claim 7, Breeze (5,394,653), in addition to Prior Art as Admitted by Applicant. An update has not revealed any other prior art.

*With regard to claim 6 and 11:* claims 6 and 11 as currently amended exclude 6 as a value for N (i.e., the number of three-terminal light-emitting thyristors) and thus to values not found to date in the otherwise closely related art as cited in the previous office action (see "Response to Arguments" of Office Action of Paper No. 13 mailed 04/23/2003), i.e., Kamei (JP359117280A), Sonobe et al (US 2002/0153532 A1), Kusuda JP403194978A) (listed in IDS of Paper No. 4), and, for claim 11, Breeze (5,394,653), in addition to Prior Art as Admitted by Applicant. An update has not revealed any other prior art.

*With regard to claims 12-14:* claims 12-14 are disclosed and dependent upon the aforementioned claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P Mondt whose telephone number is 703-306-0531. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 703-308-6601. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JPM  
October 28, 2003

A handwritten signature in black ink, appearing to be 'JPM', is located to the right of the typed name and date.